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SEARCH REQUEST FORM

SEARCHE WELL STORY

Scientific and fifechtical Information Center Examiner #:_ Requester's Full Name: Scrial Number: 10/520, 360 1616 Phone Number 30, 20622 Mail Box and Bldg/Room Location: 4A45-Results Format Preferred (circle): PAPER DISK E-MAIL If more than one search is submitted, please prioritize searches in order of need. Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract. Julie Kay Bush Scrystalline 2,5 Drone - T - - - . Title of Invention: Earliest Priority Filing Date: 60/315, 776 7/12/02 . PCT/452003/195-48 *For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) appropriate serial number,

Please search for the compd of ell I and meltod of use

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Place See attached Sheet

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Access DB# /

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STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Scarcher:		STN
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Date Completed.	Lingation	Levis/Nexis
Searcher Prep & Review Time:	Fulltext	Sequence Systems
Clerical Prep Time:	Patent Family	WWW.Internet
Online Time	Other	Other (specify)
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=> fil reg; d stat que 17; fil capl uspatf drugu biosis toxcenter prousddr; s 17
FINDE PREGISTRY ENTERED AT 16:38:44 ON 07 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 6 MAR 2006 HIGHEST RN 876011-49-3 DICTIONARY FILE UPDATES: 6 MAR 2006 HIGHEST RN 876011-49-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

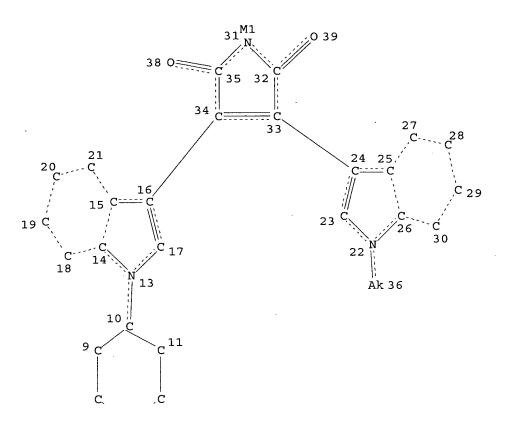
Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

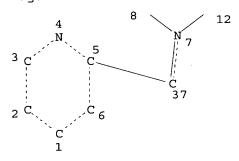
http://www.cas.org/ONLINE/UG/reqprops.html

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Page 1-A



Page 2-A

NODE AT	TRII	BUTES:		
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NSPEC	IS	R	AT	13
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GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED NUMBER OF NODES IS 39

STEREO ATTRIBUTES: NONE

L7 4 SEA FILE=REGISTRY SSS FUL L5

100.0% PROCESSED 639 ITERATIONS SEARCH TIME: 00.00.01

4 ANSWERS-

FILE 'CAPLUS'/ENTERED AT 16:38:45 ON 07 MAR 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE USPATFULL! ENTERED AT 16:38:45 ON 07 MAR 2006
CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)

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FILE 'BIOSIS' ENTERED AT 16:38:45 ON 07 MAR 2006 Copyright (c) 2006 The Thomson Corporation

FILE 'TOXCENTER' ENTERED AT 16:38:45 ON 07 MAR 2006 COPYRIGHT (C) 2006 ACS

Qazi 10/520360 Page 4

FILE 'PROUSDDR' ENTERED AT 16:38:45 ON 07 MAR 2006 COPYRIGHT (C) 2006 Prous Science

 L_9 54 L7

=> dup rem 19

DUPLICATE IS NOT AVAILABLE IN 'PROUSDDR'.

ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE

PROCESSING COMPLETED FOR L9

32 DUP REM L9 (22 DUPLICATES REMOVED) L10

ANSWERS '1-22' FROM FILE CAPLUS

ANSWERS '23-27' FROM FILE USPATFULL

ANSWERS '28-29' FROM FILE DRUGU ANSWERS '30-31' FROM FILE BIOSIS

ANSWER '32' FROM FILE PROUSDDR

=> d ibib ed abs hitstr 1-27; d iall 28-32

L10 ANSWER 1 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 1

ACCESSION NUMBER:

2005:1123756 CAPLUS

DOCUMENT NUMBER:

143:379813

TITLE:

Protein kinase C inhibitors for the treatment of autoimmune diseases and of transplant rejection

INVENTOR(S):

Wagner, Jurgen; Schuler, Walter

PATENT ASSIGNEE(S):

Novartis A.-G., Switz.; Novartis Pharma G.m.b.H.

SOURCE:

PCT Int. Appl., 26 pp. CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PAT	ENT I	NO.			KIN	D	DATE		i	APPL:	ICAT:	I NOI	. OV		D	ATE	
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	WO	2005	0971	8 0		A1		2005	1020	1	WO 2	005-1	EP36	53		2	00504	407
		W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	ΒZ,	CA,	CH,
			CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FΙ,	GB,	GD,
			GE,	GH,	GM,	HR,	HU,	ID,	·IL,	IN,	IS,	JP,	KE,	KG,	KM,	ΚP,	KR,	ΚZ,
			LC,	LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	ΜZ,	NA,
			NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,
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								RU,										
			EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,	IS,	IT,	LT,	LU,	MC,	NL,	PL,	PT,
			RO,	SE,	SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,
					SN,			•	•	•								
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,5dione, in transplantation and autoimmune diseases.

170364-57-5

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(protein kinase C inhibitors for treatment of autoimmune diseases and

transplant rejection)

170364-57-5 CAPLUS RN

1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-CN

pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2

ACCESSION NUMBER:

2005:984120 CAPLUS

DOCUMENT NUMBER:

143:279360

TITLE:

Methods of detecting CD133 antigen (AC133) expression level and use as biomarker for human cancer diagnosis

and therapy monitor

INVENTOR(S):

Penning, Maarten Tjerk; Van den Broek, Sebastiaan Johannes Jacobus; Voest, Emile Eugene; Beerepoot,

Laurens Victor; Mehra, Niven

PATENT ASSIGNEE(S):

Primagen Holding B. V., Neth.; UMC Utrecht Holding B.

ν.

SOURCE:

PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA	ATENT	NO.			KIN	D :	DATE			APPL	ICAT	ION 1	NO.		D	ATE		
WC	200	50831	23		A1	_	2005	0909		WO 2	005-	 NL15	 5		2	 0050:	 302	
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		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,	
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	ΚZ,	LC,	
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NI,	
		NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SM,	
		SY,	TJ;	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW
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E	P 157		•	•			2005	0907		EP 2	004-	7568	6		2	0040	302	
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AB This invention provides methods of detecting CD133 antigen (AC133) expression level and use as a biomarker for human cancer diagnosis and therapy monitor. Blood anal. including number of circulating endothelial cells and expression levels of human genes AC133 (CD133), EST032 and U1A evaluated by NASBA anal., were determined prior to and during chemotherapy using drugs such as angiostatin or PrimMed01, gemcitabine, and cisplatin, for a wide range of human tumor types. A use of a nucleic acid mol. comprising at least part of a sequence of AC133 or an analog thereof for monitoring a treatment of an individual suffering from a disease is also provided, as well as a diagnostic kit comprising such nucleic acid mol. 359017-79-1, Enzastaurin hydrochloride 365253-37-8,

LY317615

IT

CN

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(methods of detecting CD133 antigen (AC133) expression level and use as biomarker for human cancer diagnosis and therapy monitor)

RN 359017-79-1 CAPLUS

1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

RN 365253-37-8 CAPLUS
CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

•2 HCl

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3

ACCESSION NUMBER:

2005:1335317 CAPLUS

DOCUMENT NUMBER:

144:70000

TITLE:

Preparation of carboline derivatives as antitumor

agents

INVENTOR(S):

Moon, Young-Choon; Cao, Liangxian; Tamilarasu,

Nadarajan; Qi, Hongyan; Choi, Soongyu; Lennox, William Joseph; Corson, Donald Thomas; Hwang, Seongwoo; Davis,

Thomas

PATENT ASSIGNEE(S):

USA

SOURCE:

U.S. Pat. Appl. Publ., 234 pp., Cont.-in-part of U.S.

II

Ser. No. 79,420.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005282849	A1	20051222	·US 2005-107783	20050418
US 2005272759	A1	20051208	US 2005-79420	20050315
PRIORITY APPLN. INFO.:			US 2004-552725P P	20040315
			US 2005-79420 A2	20050315

OTHER SOURCE(S): MARPAT 144:70000

ED Entered STN: 23 Dec 2005

GΙ

Br
$$R^3$$
 R^3 R

AB The title compds. I [X = H, alkyl, haloalkyl, OH, etc.; A = C, N; B = C, N, with the proviso that at least one of A or B = N, and that when A = N, B = C; R1 = OH, alkyl, alkenyl, etc.; R2 = H, OH, 5-10 membered heteroaryl, etc.; R3 = H, COR (wherein R = OH, NH2 which is optionally substituted with cycloalkyl or heteroaryl, (un)substituted 5-10 membered heteroaryl); and their pharmaceutically acceptable salts) that inhibit the expression of VEGF post-transcriptionally and therefore are useful in the inhibition of VEGF production, in the treatment of solid tumor cancer, and in reducing plasma and/or tumor VEGF levels, were prepared E.g., a 2-step synthesis of II, starting from p-anisaldehyde and 5-bromotryptophan, was given. Over 900 exemplified compds. I were tested in assay evaluating their affect on hypoxia-inducible endogenous VEGF expression (biol. data

given).

IT 365253-37-8, LY317615

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(co-drug; preparation of carboline derivs. for inhibiting VEGF production)

RN 365253-37-8 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-

pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI)

(CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

•2 HCl

L10 ANSWER 4 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4

ACCESSION NUMBER:

2005:303191 CAPLUS

DOCUMENT NUMBER:

142:341966

TITLE:

Hydrogels used to deliver medicaments to the eye for

the treatment of posterior segment diseases

INVENTOR(S):

Schultz, Clyde L.

PATENT ASSIGNEE(S):

USA

SOURCE:

U.S. Pat. Appl. Publ., 7 pp., Cont.-in-part of U.S.

Ser. No. 821,718.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PAT	ENT	NO.			KIN	D	DATE		i	APPL	ICAT	ION I	NO.			ATE	
US	2005	0744	 97		A1	_	2005	0407	1	JS 2	004-	9719:	97			0041	
US	2005	2081	02		A1		2005	0922	1	JS 2	004-	8217	18		20	040	109
US	2005	2551	44		A1		2005	1117	1	JS 2	005-	1024	54		20	050	109
WO	2005	1104	73		A2		2005	1124	1	WO 2	005-1	US12	185		20	050	109
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											EC,						
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		NI,	NO,	ΝZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,
		SM,	SY,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,
		ZM,	zw														
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		ΑZ,	BY,	KG,	ΚZ,	MD,	RU,	ΤJ,	TM,	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,
		EE,	ES,	FI,	FR,	GB,	GR,	ΗU,	ΙE,	IS,	IT,	LT,	LU,	MC,	NL,	PL,	PT,
		RO,	SE,	SI,	SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,
		MR,	NE,	SN,	TD,	TG											
PRIORITY	APP	LN.	INFO	. :					•	US 2	003-	4613	54 P	1	P 21	0030	409

US 2004-821718 A2 20040409 US 2004-971997

A2 20041022

ED Entered STN: 08 Apr 2005

This invention provides a polymeric drug delivery system including a AΒ hydrogel containing one or more drugs for the treatment of a posterior segment disease. Exemplary drugs are anti-angiogenesis compds. for the treatment of macular degeneration. Allowing passive transference of this drug from a dilute solution into the hydrogel produces the delivery system. The hydrogel, when placed in contact with the eye, delivers the drug. delivery of the drug is sustained over an extended period of time, which is of particular utility in the eye, which is periodically flushed with tears. This sustained delivery accelerates the treatment process while avoiding potential damaging effects of localized delivery of high concns. of compds., e.g., from eye drops.

365253-37-8, LY317615 IT

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(hydrogels containing drugs for treatment of eye diseases in posterior segment)

RN 365253-37-8 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

2 HCl

CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 5 L10 ANSWER 5 OF 32

ACCESSION NUMBER:

2005:975665 CAPLUS

DOCUMENT NUMBER:

143:264929

TITLE:

Methods for detecting AC133 antigen mRNA for diagnosis

and treatment of cancer and other diseases

INVENTOR(S):

Penning, Maarten Tjerk; Beerepoot, Laurens Victor; Van Den Broek, Sebastiaan Johannes Jacobus; Mehra, Niven;

Voest, Emile Eugene

PATENT ASSIGNEE(S):

Primagen Holding B.V., Neth.; UMC Utrecht Holding B.V.

SOURCE:

Eur. Pat. Appl., 28 pp. CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1571225	A1	20050907	EP 2004-75686	20040302

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AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK
    WO 2005083123
                         Α1
                                20050909
                                           WO 2005-NL155
                                                                   20050302
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
            CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
            GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
            LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
            NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,
             SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
            AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
             RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG
                                            EP 2004-75686
                                                                    20040302
PRIORITY APPLN. INFO.:
                                            US 2004-549450P
                                                                Ρ
                                                                    20040302
```

ED Entered STN: 08 Sep 2005

The invention provides methods for detecting AC133 antigen mRNA for diagnosis and treatment of cancer and other diseases. AC133 antigen mRNA may be quantitated by PCR, RT-PCR, NASBA, SDA, TMA, bDNA or rolling circle amplification. Diseases include cancer and heart disease, high blood pressure, ischemia, stroke, psoriasis, Crohn's disease, rheumatoid arthritis, endometriosis, atherosclerosis, obesity, diabetes mellitus, diabetic retinopathy, macular degeneration, Alzheimer's disease, Peutz Jegher's syndrome, multiple sclerosis, systemic lupus erythematosus, Wegener's granulomatosis, vasculitis, sickle cell disease, thalassemia and angina.

IT 359017-79-1, Enzastaurin hydrochloride 365253-37-8
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
(Biological study); USES (Uses)

(methods for detecting AC133 antigen mRNA for diagnosis and treatment of cancer and other diseases)

RN 359017-79-1 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

RN 365253-37-8 CAPLUS
CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

HCl

REFERENCE COUNT:

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 6 L10 ANSWER 6 OF 32

ACCESSION NUMBER:

2005:761909 CAPLUS

DOCUMENT NUMBER:

143:278624

TITLE:

The Protein Kinase Cβ-Selective Inhibitor, Enzastaurin (LY317615.HCl), Suppresses Signaling through the AKT Pathway, Induces Apoptosis, and

Suppresses Growth of Human Colon Cancer and

Glioblastoma Xenografts

AUTHOR(S):

Graff, Jeremy R.; McNulty, Ann M.; Hanna, Kimberly Ross; Konicek, Bruce W.; Lynch, Rebecca L.; Bailey, Spring N.; Banks, Crystal; Capen, Andrew; Goode, Robin; Lewis, Jason E.; Sams, Lillian; Huss, Karen L.; Campbell, Robert M.; Iversen, Philip W.; Neubauer, Blake Lee; Brown, Thomas J.; Musib, Luna; Geeganage,

Sandaruwan; Thornton, Donald

CORPORATE SOURCE:

Lilly Research Labs, Eli Lilly and Company,

Indianapolis, IN, USA

SOURCE:

Cancer Research (2005), 65(16), 7462-7469

CODEN: CNREA8; ISSN: 0008-5472

PUBLISHER:

American Association for Cancer Research

DOCUMENT TYPE: Journal LANGUAGE: English ·

ED Entered STN: 15 Aug 2005

Activation of protein kinase CB has been repeatedly implicated in tumor-induced angiogenesis. The PKCβ-selective inhibitor, Enzastaurin (LY317615.HCl), suppresses angiogenesis and was advanced for clin. development based upon this antiangiogenic activity. Activation of PKCβ has now also been implicated in tumor cell proliferation, apoptosis, and tumor invasiveness. Herein, we show that Enzastaurin has a direct effect on human tumor cells, inducing apoptosis and suppressing the proliferation of cultured tumor cells. Enzastaurin treatment also suppresses the phosphorylation of GSK3βser9, ribosomal protein S6S240/244, and AKTThr308. Oral dosing with Enzastaurin to yield plasma concns. similar to those achieved in clin. trials significantly suppresses the growth of human glioblastoma and colon carcinoma xenografts. As in cultured tumor cells, Enzastaurin treatment suppresses the phosphorylation of $GSK3\beta$ in these xenograft tumor tissues. Enzastaurin treatment also suppresses $GSK3\beta$ phosphorylation to a similar extent in peripheral blood mononuclear cells (PBMCs) from these treated mice. data show that Enzastaurin has a direct antitumor effect and that Enzastaurin treatment suppresses GSK3 phosphorylation in both tumor

tissue and in PBMCs, suggesting that GSK3 β phosphorylation may serve as a reliable pharmacodynamic marker for Enzastaurin activity. With previously published reports, these data support the notion that Enzastaurin suppresses tumor growth through multiple mechanisms: direct suppression of tumor cell proliferation and the induction of tumor cell death coupled to the indirect effect of suppressing tumor-induced angiogenesis.

IT 170364-57-5, Enzastaurin

RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (protein kinase Cβ-selective inhibitor, Enzastaurin (LY317615.HCl), suppresses signaling through the AKT pathway, induces

(LY317615.HCl), suppresses signaling through the AKT pathway, induces apoptosis, and suppresses growth of human colon cancer and glioblastoma xenografts)

RN 170364-57-5 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 7 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 7

ACCESSION NUMBER:

2004:60317 CAPLUS

DOCUMENT NUMBER: TITLE:

Crystalline 3-(1-methyl-1H-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-yl]-1H-indol-3-yl]-1H-pyrrole-2,5-

dione monohydrochloride preparation for antitumor

pharmaceuticals

INVENTOR(S):

Bush, Julie Kay; Faul, Margaret Mary; Reutzel-Edens,

Susan Marie

140:117402

PATENT ASSIGNEE(S):

Eli Lilly and Company, USA

SOURCE: PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATEN	T 1	10.			KIN)	DATE		7	APPL	ICAT:	ION I	. 01		D	ATE	
						-											
WO 20	04(00692	28		A1		2004	0122	1	WO 2	003-1	JS19	548		20	0030	708
W	1:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	ΒZ,	CA,	CH,	CN,
		CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,
		GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	ΚP,	KR,	KZ,	LC,	LK,	LR,
		LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	ΜZ,	NI,	NO,	ΝZ,	OM,
		PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	ΤJ,	TM,	TN,	TR,
		TT,	TZ,	UA,	UG,	US,	UZ,	VC,	VN,	ΥU,	ZA,	ZM,	ZW				
R	: W	GH,	GM,	KE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,

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KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                                             CA 2002-2393720
     CA 2393720
                          AA
                                 20040116
                                                                     20020716
                                 20040202
                                             AU 2003-280958
     AU 2003280958
                          A1
                                                                     20030708
                                 20050420
                                             EP 2003-742111
                                                                     20030708
     EP 1523313
                          A1
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
         R:
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
                                 20060119
                                             JP 2004-521470
                                                                     20030708
     JP 2006502115
                          T2
     US 2005288332
                          A1
                                 20051229
                                             US 2005-520360
                                                                     20050105
                                             NO 2005-676
     NO 2005000676
                                 20050209
                          ·A
                                                                     20050209
PRIORITY APPLN. INFO.:
                                             US 2002-395976P
                                                                  P
                                                                     20020712
                                             WO 2003-US19548
                                                                  W
                                                                     20030708
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ED Entered STN: 26 Jan 2004 GI

AB The present invention relates to crystalline I monohydrochloride salt, a pharmaceutical formulation containing said salt and to methods for treating cancer and for inhibiting tumor growth using said salt. I was prepared, converted to the monohydrochloride, formulated into capsules and was effect in treating cancer and inhibiting tumor growth.

IT 170364-57-5P 359017-79-1P 647031-15-0P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
 (Uses)

Ϊ

(crystalline

3-(1-methyl-1H-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4yl]-1H-indol-3-yl]-1H-pyrrole-2,5-dione monohydrochloride preparation for antitumor pharmaceuticals)

RN 170364-57-5 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

RN 359017-79-1 CAPLUS
CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, monohydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

HCl

RN 647031-15-0 CAPLUS
CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, monohydrochloride, monohydrate (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

● HCl

● H₂O

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 8 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 8

ACCESSION NUMBER: 2003:1000293 CAPLUS

DOCUMENT NUMBER: 141:116579

TITLE: LY317615 decreases plasma VEGF levels in human tumor

xenograft-bearing mice

AUTHOR(S): Keyes, Kristan A.; Mann, Larry; Sherman, Michael;

Galbreath, Elizabeth; Schirtzinger, Linda; Ballard, Darryl; Chen, Yun-Fei; Iversen, Philip; Teicher,

Beverly A.

CORPORATE SOURCE: Lilly Research Laboratories, Lilly Corporate Center,

Indianapolis, IN, 46285, USA

SOURCE: Cancer Chemotherapy and Pharmacology (2004), 53(2),

133-140

CODEN: CCPHDZ; ISSN: 0344-5704

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal LANGUAGE: English ED Entered STN: 23 Dec 2003

Angiogenesis plays an important role in tumor growth. Angiogenic growth AB factors may be useful as biomarkers of antiangiogenic activity since their plasma concns. correlate with the efficacy of treatments directed toward angiogenic targets. SW2 small-cell lung carcinoma (SCLC), Caki-1 renal cell carcinoma and HCT-116 colon carcinoma tumors produce measurable plasma VEGF, bFGF and TGF β in nude mice. Mice bearing these human tumor xenografts were treated orally twice daily with the PKCB inhibitor, LY317615 (days 14 - 30 for SW2 and HCT116, and days 21 - 39 for Caki-1). Plasma was collected every 3 days from control and treated mice. LY317615 significantly decreased plasma VEGF levels in mice bearing SW2 SCLC and Caki-1 renal cell carcinoma compared to control plasma concns. beginning 5 - 7 days after initiating therapy. VEGF plasma levels remained suppressed after termination of LY317615 treatment and for the duration of the study (an addnl. 2 to 3 wk). Plasma VEGF levels in mice. bearing HCT116 xenografts were not altered by LY317615 treatment and plasma bFGF and TGF- β were not altered by LY317615 in any of the animals. As shown by CD31 immunohistochem. staining, LY317615 decreased... intratumoral vessel d. by nearly 40% in all three tumors. Only the Caki-1 tumor responded to single-agent LY317615 therapy with a measurable tumor growth delay. Thus, unexpectedly inhibition of PKC\$\beta\$ in vivo led to decreased VEGF production that persisted after therapy as well as to decreased intratumoral vessels. Plasma VEGF was a weak marker of response to LY317615, and plasma bFGF and TGF β were not markers of LY317615 activity.

IT 365253-37-8, LY317615

RL: DMA (Drug mechanism of action); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(LY317615 decreases plasma VEGF levels in human tumor xenograft-bearing mice)

RN 365253-37-8 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} H \\ N \\ \end{array}$$

●2 HCl

REFERENCE COUNT:

46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 9 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 9

ACCESSION NUMBER:

2002:31257 CAPLUS

DOCUMENT NUMBER:

136:79750

TITLE:

Therapeutic treatment of cancer with a protein kinase

C inhibitor

INVENTOR(S):

Teicher, Beverly Ann; Ways, Douglas Kirk

PATENT ASSIGNEE(S):

Eli Lilly and Company, USA

SOURCE:

PCT Int. Appl., 28 pp. CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT	NO.	KINI	DATE		i	APPL:	[CAT	ION I	. 01		D	ATE	
WO 2002	002116	A2	2002	0110	Ī	WO 2	001-	JS16	502		20	0010	628
WO 2002	002116	A3	2002	0523									
W:	AE, AG, A	AL, AM,	AT, AU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	ΒZ,	CA,	CH,	CN,
	CO, CR, C	CU, CZ,	DE, DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB.,	GD,	GE,	GH,
	GM, HR, I	HU, ID,	IL, IN,	IS,	JP,	KE,	KG,	ΚP,	KR,	KΖ,	LC,	LK,	LR,
	LS, LT, I	LU, LV,	MA, MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	ΝZ,	PL,	PT,
	RO, RU, S	SD, SE,	SG, SI,	SK,	SL,	TJ,	TM,	TR,	TT,	TZ,	UA,	UG,	US,
	UZ, VN,												
RW:	GH, GM, I											CH,	CY,
	DE, DK, I												
	BJ, CF, C												
PRIORITY APP	LN. INFO.	:			1	US 2	000-	2151	72P		P 2	0000	629
ED Entered GI	STN: 11	Jan 200	02										

AB Methods are disclosed for treating cancer and inhibiting tumor growth by administering to a mammal in need thereof a therapeutically effective amount of I, or a pharmaceutically acceptable salt or solvate thereof.

IT 170364-57-5

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

I

(indolylpyrroledione derivative protein kinase C inhibitor for cancer treatment)

RN 170364-57-5 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

L10 ANSWER 10 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 10

ACCESSION NUMBER:

2002:31235 CAPLUS

DOCUMENT NUMBER:

136:90969

TITLE:

Use of a protein kinase C inhibitor to enhance the

clinical efficacy of anti-neoplastic chemotherapeutic

agents and radiation therapy

INVENTOR(S):

Teicher, Beverly Ann; Ways, Douglas Kirk

PATENT ASSIGNEE(S): Eli Lilly and Company, USA

SOURCE:

PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

APPLICATION NO.

DATE

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     WO 2002002094
                         A2
                               20020110
                                           WO 2001-US16490
                                                                   20010625
     WO 2002002094
                         A3
                               20030116
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
            LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
             RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
             UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
            DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                           US 2000-215043P
PRIORITY APPLN. INFO.:
                                                              P 20000629
ED
     Entered STN: 11 Jan 2002
     Methods are disclosed for treating a neoplasm which comprises
AB
     administering to a mammal in need thereof, an anti-neoplastic agent or
     therapeutic radiation in combination with 3-[1-(1-(pyridin-2-
     ylmethyl)piperidin-4-yl)-indol-3-yl]-4-(1-methylindol-3-yl)-1
     -pyrrole-2,5-dione (I) or a pharmaceutically acceptable salt or solvate
     thereof, and for enhancing the anti-neoplastic effect of anti-neoplastic
     agents or therapeutic radiation which comprises administering to a mammal
     in need thereof, I in combination with said anti-neoplastic agent or said
     therapeutic radiation having an anti-neoplastic effect. A series of
     anti-neoplastic agents in claimed. A capsule contained active agents 250,
     starch 200, and magnesium stearate 10 mg.
IT
     170364-57-5
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
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KIND

DATE

PATENT NO.

anti-neoplastic chemotherapeutic agents and radiation therapy)
170364-57-5 CAPLUS
1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-

pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

(use of protein kinase C inhibitor to enhance clin. efficacy of

L10 ANSWER 11 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 11

ACCESSION NUMBER:

2002:779637 CAPLUS

DOCUMENT NUMBER:

138:32965

TITLE:

RN

CN

An in vitro tumor model: analysis of angiogenic factor

expression after chemotherapy

AUTHOR (S):

Keyes, Kristan; Cox, Karen; Treadway, Patti; Mann, Larry; Shih, Chuan; Faul, Margaret M.; Teicher,

Beverly A.

CORPORATE SOURCE:

Lilly Research Laboratories, Lilly Corporate Center,

Indianapolis, IN, 46285, USA

SOURCE:

Cancer Research (2002), 62(19), 5597-5602

CODEN: CNREA8; ISSN: 0008-5472

PUBLISHER:

American Association for Cancer Research

DOCUMENT TYPE:

Journal English

LANGUAGE:

ED ·

Entered STN: 13 Oct 2002

Tumor tissues include malignant cells and a stroma made up of mainly AB inflammatory cells, endothelial cells, and fibroblasts. To differentiate the effects of treatment on angiogenic cytokine secretion in tumor tissue, exponential and stationary phase human CaKi-1 renal cell carcinoma cells, human SW2 small cell lung carcinoma cells, human umbilical vein endothelial cells (HUVECs), murine NIH-3T3 fibroblasts, and murine RAW264.7 macrophages were exposed to gemcitabine, paclitaxel, carboplatin, and the protein kinase $C\beta$ inhibitor LY317615, and secretion (24 h) of tumor necrosis factor- α , basic fibroblast growth factor (bFGF), vascular endothelial growth factor (VEGF), and transforming growth factor $(TGF)-\beta$ was determined by a Luminex FlowMetrix assay. After 72 h of exposure, exponential RAW, 3T3, and SW2 cells were sensitive to gemcitabine; exponential and stationary SW2 and HUVECs were sensitive to paclitaxel; and exponential and stationary HUVECs were most sensitive to LY317615. None of the cells secreted detectable tumor necrosis factor- α . Generally, exponential cells secreted higher levels of cytokines than stationary cells (stationary cells secreted .apprx.10 times less TGF- β). Only malignant cells secreted VEGF (80-300 pg/106 cells). VEGF secretion by exponential SW2 cells decreased in an anticancer agent concentration-dependent manner. Every cell type secreted TGF-β (40-700 pg/106 cells). Exponential 3T3, RAW, CaKi-1, and SW2 cells secreted the most $TGF-\beta$, and levels did not decrease with treatment. Only CaKi-1, SW2, and HUVECs secreted bFGF (0.5-50 pg/106 cells). CaKi-1 cells increased secretion of bFGF with therapy. Although malignant cells alone secreted VEGF, stromal cells secreted TGF- β and bFGF at levels comparable with or greater than malignant cells and thus may be important contributors to tumor growth and progression.

TT 365253-37-8, LY317615

> RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(angiogenic factor and cytokine expression in cancer and non-cancer cells after chemotherapy)

RN365253-37-8 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

HCl

REFERENCE COUNT:

28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT Qazi 10/520360 Page 20

L10 ANSWER 12 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 12

ACCESSION NUMBER: 2002:512394 CAPLUS

DOCUMENT NUMBER: 138:247991

TITLE: Antiangiogenic and Antitumor Effects of a Protein

Kinase Cβ Inhibitor in Human Breast Cancer and

Ovarian Cancer Xenografts

AUTHOR(S): Teicher, Beverly A.; Menon, Krishna; Alvarez, Enrique;

Shih, Chuan; Faul, Margaret M.

CORPORATE SOURCE: Lilly Research Laboratories, Lilly Corporate Center,

Indianapolis, IN, 46285, USA

SOURCE: Investigational New Drugs (2002), 20(3), 241-251

CODEN: INNDDK; ISSN: 0167-6997

PUBLISHER: Kluwer Academic Publishers

DOCUMENT TYPE: Journal LANGUAGE: English ED Entered STN: 10 Jul 2002

Entered STN: 10 Jul 2002 In cell culture, the compound 317615·2HCl, a potent inhibitor of AΒ VEGF-stimulated HUVEC proliferation, was not very effective against MX-1 breast cancer cells (IC50 = $8.1~\mu M$) or SKOV-3 ovarian carcinoma cells (IC50 = $9.5 \mu M$). Exposure to combinations of paclitaxel or carboplatin and 317615·2HCl with MX-1 cells in culture resulted in cell survival that reflected primarily additivity of the 2 agents. SKOV-3 cells to paclitaxel or carboplatin along with 317615.2HCl resulted in cell survivals that reflected additivity of 317615.2HCl with paclitaxel and greater-than-additive cytotoxicity with carboplatin. Administration of 317615.2HCl orally twice daily to nude mice bearing s.c. MX-1 tumors or SKOV-3 tumors resulted in a decreased number of intratumoral vessels as determined by CD31 and CD105 staining with decreases of 35% and 43% in MX-1 tumors and 60% and 75% in SKOV-3 tumors, resp. $317615 \cdot 2HCl$ was an active antitumor agent against the MX-1 xenograft and increased the tumor growth delay produced by paclitaxel by 1.7-fold and the tumor growth delay produced by carboplatin by 3.8-fold. Administration of 317615.2HCl also increased the tumor growth delay produced by fractionated radiation therapy in the MX-1 tumor. Treatment with 317615.2HCl alone increased the lifespan of animals bearing i.p. SKOV-3 xenografts by 1.9 fold compared with untreated control animals. The combination of paclitaxel and 317615.2HCl resulted in 100% 120-day survival of SKOV-3 bearing animals. Administration of 317615 2HCl along with carboplatin to animals bearing the SKOV-3 tumor produced a 1.8-fold increase in lifespan compared with carboplatin alone. 317615.2HCl is a promising new antiangiogenic agent that is in early phase clin. testing.

IT 365253-37-8

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(antiangiogenic and antitumor effects of a protein kinase $C\beta$ inhibitor in human breast cancer and ovarian cancer xenografts)

RN 365253-37-8 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

HC1

REFERENCE COUNT: 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 13 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 13

ACCESSION NUMBER:

2001:914698 CAPLUS

DOCUMENT NUMBER:

137:288547

TITLE:

Antiangiogenic effects of a protein kinase

Cβ-selective small molecule

AUTHOR (S):

Teicher, Beverly A.; Alvarez, Enrique; Menon, Krishna;

Esterman, Michail A.; Considine, Eileen; Shih, Chuan;

Faul, Margaret M.

CORPORATE SOURCE:

Lilly Corporate Center, Lilly Research Laboratories,

Indianapolis, IN, 46285, USA

SOURCE:

Cancer Chemotherapy and Pharmacology (2002), 49(1),

69-77

CODEN: CCPHDZ; ISSN: 0344-5704

PUBLISHER:

Springer-Verlag

DOCUMENT TYPE:

Journal English

LANGUAGE:

Entered STN: 19 Dec 2001 Protein kinase C frequently plays a central role in the intracellular AB ... signal transduction of growth factors and cytokines. The acyclic bisindolylmaleimide 317615·2HCl was identified as a potent selective inhibitor of protein kinase CB. The compound 317615.2HCl was tested in culture and in vivo in the rat corneal micropocket and in the SW2 small-cell lung carcinoma human tumor xenograft. In cell culture, 317615 2HCl was a more potent inhibitor of VEGF-stimulated HUVEC proliferation (IC50 150 nM, 72 h) than of human SW2 small-cell lung carcinoma cell proliferation (IC50 3.5 μM, 72 h). When administered orally twice daily for 10 days, the compound 317615 2HCl markedly decreased the neo-angiogenesis induced by VEGF or bFGF in the rat corneal micropocket assay. To assess antitumor efficacy, 317615·2HCl was administered orally twice daily to nude mice bearing SW2 xenograft tumors on days 14 through 30 after tumor implantation. The number of countable intratumoral vessels was decreased in a dose-dependent manner reaching as low as one-quarter the number in the control tumors. The decrease in intratumoral vessels was paralleled by increases in tumor growth delay. Treatment of the tumor-bearing animals with paclitaxel or carboplatin followed by treatment with 317615 2HCl resulted in a 2.5- to 3.0-fold increase in tumor growth delay compared with the standard chemotherapeutic agents alone. 317615 2HCl represents a new approach to antiangiogenic therapy in cancer-blocking multiple growth factor signaling pathways in endothelial cells with a single agent. 317615 HCl is in early clin. testing.

IT 365253-37-8, LY 317615

RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(antiangiogenic effects of a protein kinase $C\beta$ -selective small mol.)

365253-37-8 CAPLUS RN

1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-CNpyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

REFERENCE COUNT:

78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 14 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 14 ACCESSION NUMBER:

2001:319711 CAPLUS

DOCUMENT NUMBER:

134:331632

TITLE:

Pharmaceutical compositions containing protein kinase

C inhibitors and antioxidants

INVENTOR(S):

Cameron, Norman Eugene; Ways, Douglas Kirk

PATENT ASSIGNEE(S):

Eli Lilly and Co., USA PCT Int. Appl., 52 pp.

SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA7	CENT :	NO.			KIN)	DATE		1	APPL:	ICAT:	ION 1	NO.		Di	ATE	
						_									-		
WO	2001	0303	31		A2		2001	0503	Ţ	WO 20	1-00C	JS262	254		2	0001	013
WO	2001	0303	31		A3		2002	0124									
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	ΒZ,	CA,	CH,	CN,
		CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EE,	ES,	FΙ,	GB,	GD,	GE,	GH,	GM,	HR,
							JP,										
		LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	PL,	PT,	RO,	RU,
		SD,	SE,	SG,	SI,	SK,	SL,	ТJ,	TM,	TR,	TT,	TZ,	ŲΑ,	ŪĠ,	US,	UZ,	VN,
		YU,	ZA,	ZW,	AM,	ΑZ,	BY,	KG,	KZ,	MD,	RU,	ΤJ,	TM				
	RW:	GH,	GM,	ΚĒ,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	ŪĠ,	ZW,	ΑT,	BE,	CH,	CY,
		DE,	DK,	ES,	FI,	FR,	GB,	GR,	ΙE,	IT,	LU,	MC,	NL,	PT,	SE,	BF,	ВJ,
		CF,	CG,	CI,	CM,	GΑ,	GN,	GW,	ML,	MR,	NE,	SN,	TD,	TG			
PRIORITY	Y APP	LN.	INFO	. :					•	US 1:	999-	1611	29P		P 1	9991	022
										US 2	000-	1775	10P		P 2	0000	121
OTHER SO	OURCE	(S):			MAR	PAT	134:	3316	32								

Entered STN: 04 May 2001

Compns. comprising a PKC inhibitor, or a salt and an antioxidant, AB essential fatty acid, or a prostacyclin agent, or a pharmaceutically acceptable salt thereof are provided. Also provided are methods of treatment comprising administration of such compns., and methods of treatment comprising co-administration of a PKC inhibitor, or a pharmaceutically acceptable salt thereof, and an antioxidant, essential fatty acid, or a prostacyclin agent, or a salt. Thus, an aerosol contained drug 0.35, EtOH 29.75, propellant-22 70.0%.

IT 170364-57-5

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (pharmaceutical compns. containing protein kinase C inhibitors and antioxidants)

170364-57-5 CAPLUS RN

1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-CN pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 15 L10 ANSWER 15 OF 32

ACCESSION NUMBER:

2002:195484 CAPLUS

DOCUMENT NUMBER: TITLE:

Antiangiogenic and antitumor effects of a protein

kinase Cβ inhibitor in human HT-29 colon

carcinoma and human CaKil renal cell carcinoma

xenografts

137:210512

AUTHOR (S):

Teicher, Beverly A.; Menon, Krishna; Alvarez, Enrique; Galbreath, Elizabeth; Shih, Chuan; Faul, Margaret M.

CORPORATE SOURCE:

Lilly Research Laboratories, Lilly Corporate Center,

Indianapolis, IN, 46285, USA

SOURCE:

Anticancer Research (2001), 21(5), 3175-3184

CODEN: ANTRD4; ISSN: 0250-7005

PUBLISHER:

International Institute of Anticancer Research

DOCUMENT TYPE:

Journal

LANGUAGE:

English

ΕĎ

18 Mar 2002 Entered STN:

The compound 317615·2HCl, a selective protein kinase $C\beta$ inhibitor, was not very cytotoxic toward human CaKil renal cell carcinoma cells or human HT-29 colon carcinoma cells in monolayer culture. Isobologram anal. was used to determine additivity or synergy of the combination regimens. Exposure of CaKi1 cells to 317615.2HCl (10 or 100 mM) along with gemcitabine or 5-fluorouracil for 24 h resulted in cytotoxicity that appeared to be less-than-additive to additive for the 2 Exposure of HT-29 cells to gemcitabine along with 317615·2HCl (10 or 100 mM) resulted in a synergistic cytotoxicity while combinations with 5-fluorouracil resulted in additive to greater-than-additive cytotoxicity for the agents. After treatment of CaKil or HT-29 xenograft-bearing mice with 317615.2HCl, immunohistochem. staining for expression of endothelial specific markers, either CD31 or CD105, was used to quantify the number of intratumoral vessels in the samples. CaKil tumor angiogenesis was very responsive to treatment with 317615.2HCl such that the number of intratumoral vessels stained by CD31 or CD105 was decreased to 20% of the control. The HT-29 colon carcinoma angiogenesis was also responsive to 317615.2HCl, such that the number of intratumoral vessels stained by CD31 or CD105 was decreased to 40 to 50% of the control. 5-Fluorouracil, cisplatin, or fractionated radiation therapy was combined with treatment with 317615.2HCl in the simultaneous combination treatment regimen in animals bearing HT-29 colon carcinoma xenografts. The resulting tumor growth delays indicated that administration of 317615.2HCl increased the effects of the cytotoxic therapy. Both a simultaneous or an overlapping treatment regimen and a sequential treatment regimen were used to assess 317615.2HCl alone and along with fractionated radiation therapy or gemcitabine against the human CaKil renal cell carcinoma xenograft. The CaKil tumor was quite sensitive to fractionated radiation therapy and to gemcitabine and, although 317615.2HCl was an effective single agent in this tumor, the combination regimens did not reach additivity for the combination regimens in vivo. 317615.2HCl is in early clin. testing.

IT 365253-37-8

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(antiangiogenic and antitumor effects of a protein kinase $C\beta$ inhibitor in colon and renal cell carcinoma)

RN 365253-37-8 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

REFERENCE COUNT: 70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 16 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 16

ACCESSION NUMBER: 2001:307394 CAPLUS

DOCUMENT NUMBER: 135:282776

TITLE: Antiangiogenic and antitumor effects of a protein

kinase Cβ inhibitor in human T98G glioblastoma

multiforme xenografts

AUTHOR(S): Teicher, Beverly A.; Menon, Krishna; Alvarez, Enrique;

Galbreath, Elizabeth; Shih, Chuan; Faul, Margaret

CORPORATE SOURCE: Lilly Research Laboratories, Lilly Corporate Center,

Indianapolis, IN, 46285, USA

Indianapolis, IN, 46285, USA

SOURCE: Clinical Cancer Research (2001), 7(3), 634-640

CODEN: CCREF4; ISSN: 1078-0432

PUBLISHER: American Association for Cancer Research

DOCUMENT TYPE: Journal LANGUAGE: English ED Entered STN: 02 May 2001

Although rare, the morbidity and mortality from brain tumors are AΒ significant. Chemotherapy has made only a small impact on these tumors. The human T98G glioblastoma multiforme cell line was used as a brain tumor model. The protein kinase $C\beta$ inhibitor $317615 \cdot 2HCl$ was not highly cytotoxic toward T98G cells in culture and was additive in cytotoxicity with carmustine (BCNU). When nude mice bearing s.c. T98G tumors were treated with $317615 \cdot 2HCl$ p.o. twice daily on days 14-30after tumor cell implantation, the number of intratumoral vessels stained by CD31 was decreased to 37% of control, and the number of intratumoral vessels stained by CD105 was decreased to 50% of control. The compound 317615 · 2HCl was an active antitumor agent against s.c. growing T98G xenografts. A treatment regimen administering 317615 2HCl before, during, and after BCNU was compared with a treatment regimen administering 317615 2HCl sequentially after BCNU. In the tumor growth delay determination of the s.c. tumor, the sequential treatment regimen was more effective than the simultaneous treatment regimen. However, when the same treatments were administered to animals bearing intracranial T98G tumors, the survival of animals receiving the simultaneous treatment regimen increased from 41 days for those treated with BCNU alone to 102 days for animals treated with the combination, whereas animals receiving the sequential treatment regimen survived 74 days. Treatment with the protein kinase Cβ inhibitor decreased T98G glioblastoma multiforme angiogenesis and improved treatment outcome with BCNU.

IT 365253-37-8

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(antiangiogenic and antitumor effects of PKC β inhibitor 317615 2HCl)

RN 365253-37-8 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

REFERENCE COUNT:

55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 17 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 17

ACCESSION NUMBER:

2001:855440 CAPLUS

DOCUMENT NUMBER:

137:195076

Qazi 10/520360 Page 26

TITLE: Antiangiogenic and antitumor effects of a protein

kinase Cβ inhibitor in murine Lewis lung

carcinoma and human Calu-6 non-small-cell lung

carcinoma xenografts

AUTHOR(S): Teicher, Beverly A.; Menon, Krishna; Alvarez, Enrique;

Galbreath, Elizabeth; Shih, Chuan; Faul, Margaret M.

CORPORATE SOURCE: Lilly Corporate Center, Lilly Research Laboratories,

Indianapolis, IN, 46285, USA

SOURCE: Cancer Chemotherapy and Pharmacology (2001), 48(6),

473-480

CODEN: CCPHDZ; ISSN: 0344-5704

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal LANGUAGE: English ED Entered STN: 27 Nov 2001

The compound 317615-2HCl, a potent inhibitor of VEGF-stimulated human AB umbilical vein endothelial cell proliferation, was not very effective against cultured Calu-6 non-small-cell lung carcinoma cells (IC50 26 Exposure of cultured Calu-6 cells to combinations of paclitaxel or carboplatin with 317615-2HCl resulted in cell survival that reflected ranges of less-than-additivity to additivity of the two agents. Administration of 317615-2HCl orally twice daily to nude mice bearing s.c. Calu-6 tumors resulted in a decrease of intratumoral vessels to 50% of the number in control tumors. 317615-2HCl showed antitumor activity against the Lewis lung carcinoma and increased the tumor growth delay produced by paclitaxel by 5-fold, that produced by gemcitabine by 2-fold and that produced by carboplatin by 1.7-fold. There was a decrease in the number of lung metastases in the Lewis lung carcinoma that paralleled the increased response of the primary tumor to each treatment combination. Administration of 317615-2HCl also increased the tumor growth delay produced by fractionated radiation therapy of the Lewis lung tumor. Treatment with 317615-2HCl was an effective therapy in the Calu-6 non-small-cell lung carcinoma xenograft when the compound was administered either early (days 4-18) or later (days 14-30) after transplantation. Combination treatment regimens in which 317615-2HCl was administered along with or sequentially with paclitaxel or carboplatin were much more effective than the agents administered alone. 317615-2HCl is in early clin. testing.

IT 365253-37-8

RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (antiangiogenic and antitumor effects of protein kinase Cβ inhibitor 317615 in murine lung carcinoma and human non-small-cell lung carcinoma xenografts)

RN 365253-37-8 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 18 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 18

ACCESSION NUMBER: 1996:546509 CAPLUS

DOCUMENT NUMBER: 125:275642

TITLE: Preparation of bis(3-indoly1)maleimide inhibitors of

protein kinase C β -1 and β -2 isoenzymes

INVENTOR(S): Heath, William F., Jr.; Mcdonald, John H., III; Paal,

Michael; Ruehter, Gerd; Schotten, Theo; Stenzel,

Wolfgang

PATENT ASSIGNEE(S): Eli Lilly and Company, USA

SOURCE: U.S., 32 pp., Cont.-in-part of U.S. Ser. No.

173,741, abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

	TENT																	•
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US	5545	636			Α		1996	0813	•	US 1	994-	3249	48		1	9941	018	
CA	2179	650			· AA		1995	0629	1	CA 1	994-	2179	650		1	9941:	214	
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							BR,											
	W :																	
							KΡ,											
		NL,	NO,	ΝZ,	PL,	PΤ,	RO,	RU,	SD,	SE,	SI,	SK,	ТJ,	TT,	UΑ,	UΖ,	VN	
	RW:	KE,	MW,	SD,	SZ,	ΑT,	ΒE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	ΙE,	ΙT,	LU,	
		MC.	NL,	PT,	SE,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN.	ML,	MR,	NE.	SN,	
		TD,		•	•	•		•	•	•	•	•	•	•	•	•	•	
זזת	9513				7.1		1995	0710		ר זומ	995-	1220	Ω		1	9941	214	
שני	0950	7066			T2		1997											
EP	8176	27			A1		1998	0114		EP 1	995-	9048	92		1	9941:	214	
EP	8176	27	٠.		В1		2005	0309										
	R:	AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	IT,	LI,	LU,	NL,	SE,	MC,	PT,	
		-	SI,	-	•		•	•	•	•	•	•	•	•	•	•	•	
ΕD	1449				Δ1		2004	0825		FD 2	004 -	1020	54		1	9941	214	
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	R:				DE,	DK,	ES,	FR,	GB,	GR,	тт,	ыı,	. ши,	иL,	SE,	MC,	ы,	
		•	SI,															
AT	2903	78			E		2005	0315		AT 1	995-	9048	92		1	9941:	214	
ES	2236	702			T3.		2005	0716		ES 1	995-	9048	92		1	9941	214	
PT	2236 8176	27			T		2005	0729		PT 1	995-	9048	92		1	9941:	214	
	9410				Ζ.		1996	0620		7Δ 1	994-	1013	9			9941	220	
		~			2.7			~~~			J J I		_					

OTHER SOURCE(S): MARPAT 125:275642

ED Entered STN: 13 Sep 1996

GΙ

The title compds. [I; R1' = H, alkyl, (un)substituted aminoalkyl; R2' = H, alkyl, alkoxyalkyl, hydroxyalkyl, alkylthio, CF3, alkylsulfenyl; R3 = H, MeCO; R4-R7, R4'-R7' = H, halogen, alkyl, OH, alkoxy, alkoxycarbonyl, NO2, NH2, acetylamino, etc.; R8 = (CH2)sR10; R9 = (CH2)sR11; R10, R11 = OH, alkoxy, CO2H, (un)substituted NH2, N3, CN, etc.; r = 1-3; s = 0-3], which are selective inhibitors of protein kinase C isoenzymes beta-1 and beta-2, and which are therapeutically useful in treating conditions associated with diabetes mellitus (no data) and its complications, are prepared and

II

Ι

I-containing

formulations presented. Thus, indole derivative II was prepared and demonstrated a protein kinase C IC50 of 0.05 μM both for the $\beta\text{-}1$ and the $\beta\text{-}2$ isoenzymes.

IT 170364-57-5P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);

BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of bis(3-indoly1)maleimide inhibitors of protein kinase C β -1 and β -2 isoenzymes)

RN 170364-57-5 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} H & O \\ \hline \\ N & N \\ \hline \\ Me \end{array}$$

L10 ANSWER 19 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:

2004:859443 CAPLUS

DOCUMENT NUMBER:

143:26446

TITLE:

A radiolabeled synthesis of [indole-C-14] LY317615, a

PKC inhibitor

AUTHOR (S):

Kennington, John W., Jr.; O'Bannon, Douglas D.

CORPORATE SOURCE:

Lilly Research Laboratories, A Division of Eli Lilly and Company, Lilly Corporate Center, Indianapolis, IN,

46285, USA

Conference

SOURCE:

Synthesis and Applications of Isotopically Labelled Compounds, Proceedings of the International Symposium, 8th, Boston, MA, United States, June 1-5, 2003 (2004), Meeting Date 2003, 305-307. Editor(s): Dean, Dennis C.; Filer, Crist N.; McCarthy, Keith E. John Wiley & Sons Ltd.: Chichester, UK.

CODEN: 69FZAZ; ISBN: 0-470-86365-X

DOCUMENT TYPE:

LANGUAGE: English

ED Entered STN: 18 Oct 2004

AB A radiolabeled synthesis of [indole-C-14]-LY317615, a Protein Kinase C inhibitor currently in clin. trial, is presented. The radiolabel is desired to be in a metabolically robust position and therefore the N-methylindole portion of the mol. was chosen. The synthetic route involves the preparation of C-14 radiolabeled indole in the two position utilizing the Fukuyama indole synthesis and coupling with the "Eastern" piece to complete the synthesis.

IT 365253-37-8P, LY317615

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of carbon-14 labeled indole LY317615)

RN 365253-37-8 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

●2 HC1

REFERENCE COUNT: THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 20 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:

2003:645307 CAPLUS

DOCUMENT NUMBER:

139:337856

TITLE:

Strategies for the synthesis of N-

(azacycloalkyl)bisindolylmaleimides: selective

inhibitors of PKCβ

AUTHOR (S):

Faul, Margaret M.; Grutsch, John L.; Kobierski, Michael E.; Kopach, Michael E.; Krumrich, Christine

A.; Staszak, Michael A.; Udodong, Uko; Vicenzi,

Jeffrey T.; Sullivan, Kevin A.

CORPORATE SOURCE:

Lilly Corporate Center, Global Chemical Process Research and Development, Eli Lilly and Company,

Indianapolis, IN, 46285-4813, USA

SOURCE:

Tetrahedron (2003), 59(36), 7215-7229

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER:

Elsevier Science B.V.

DOCUMENT TYPE:

Journal English

Ι

LANGUAGE: OTHER SOURCE(S):

CASREACT 139:337856

ED Entered STN: 19 Aug 2003

GΙ

AB N-(Azacycloalkyl) bisindolylmaleimides such as I have been identified to be selective inhibitors of PKCβ. This manuscript will describe the synthetic approaches employed to prepare this class of compds. that resulted in development of efficient methods for preparation of N-(azacycloalkyl)indoles, indole-3-acetamides, and indole-3-glyoxylate esters.

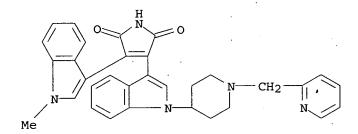
IT 170364-57-5P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(N-(azacycloalkyl)) bisindolylmaleimides for selective inhibition of PKCB)

RN 170364-57-5 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 21 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:

2003:363815 CAPLUS

DOCUMENT NUMBER:

139:230553

TITLE:

Acyclic N-(azacycloalkyl)bisindolylmaleimides: isozyme

selective inhibitors of PKCB

AUTHOR (S):

Faul, Margaret M.; Gillig, James R.; Jirousek, Michael

R.; Ballas, Lawrence M.; Schotten, Theo; Kahl, Astrid;

Mohr, Michael

CORPORATE SOURCE:

Global Chemical Process Research and Development Division, Lilly Research Laboratories, A Division of

Eli Lilly and Company, Indianapolis, IN, 46285, USA

SOURCE:

Bioorganic & Medicinal Chemistry Letters (2003),

13(11), 1857-1859

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER:

Elsevier Science B.V.

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 139:230553

ED Entered STN: 13 May 2003

GI

The synthesis and structure-activity relationship (SAR) trends of a new AB class of N-(azacycloalkyl)bisindolylmaleimides, e.g. I (R1 = CH2-pyridyl, R2 = Me, n = 2), acyclic derivs. of staurosporine, is described. exhibits an IC50 of 40-50 nM against the human PKCβ1 and PKCβ2 isoenzymes and selectively inhibits the PKC β isoenzymes in comparison to other PKC isoenzymes (α , γ , δ , .vepsiln., λ , and $\eta)\,.$ The series is also kinase selective for PKC in comparison to other ATP-dependent kinases. A comparison of the protein kinase C (PKC) isoenzyme and kinase activity of the series is made to the kinase inhibitor staurosporine.

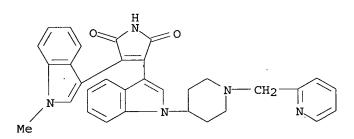
IT 170364-57-5P

> RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of acyclic N-(azacycloalkyl)bisindolylmaleimides as isoenzyme selective inhibitors of PKCβ)

170364-57-5 CAPLUS RN

1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-CNpyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS 13 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 22 OF 32 CAPLUS COPYRIGHT 2006 ACS on STN

Ι

ACCESSION NUMBER:

1995:921902 CAPLUS

DOCUMENT NUMBER:

123:339732

TITLE:

Preparation of bis(indolyl)pyrrolediones as protein

INVENTOR(S):

kinase C inhibitors

Heath, William Francis Heath, Jr.; McDonald, John Hampton III; Paal, Michael; Ruether, Gerd; Schotten,

Theo; Stenzel, Wolfgang

Qazi 10/520360 Page 33

PATENT ASSIGNEE(S):

Eli Lilly and Co., USA

SOURCE:

PCT Int. Appl., 104 pp. CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	TENT												NO.			ATE	
	9517							0629					1313			9941	214
	W:	AM,	AT,	AU,	BB,	BG,	BR,	BY,	CA,	CH	i, Ci	I, CZ	, DE,	DK,	ES,	FI,	GB,
		GE,	HU,	JP,	KE,	KG,	KP,	KR,	KZ,	LK	(, L	r, LU	, LV,	MD,	MG,	MN,	MW,
		NL.	NO.	NZ.	PL,	PT	RO,	RU,	SD,	SE	. SI	, sk	TJ,	TT,	UA,	UZ,	VN
	RW:	•	•				•		-				GB,	-	-	-	
		MC,	NL,	PT,	SE,	BF	ВJ,	CF,	CG,	CI	, CI	1, GA	, GN,	ML,	MR,	NE,	SN,
		TD,	TG														
US	5545	636			Α		1996	0813		US	1994	-324	948		1	9941	018
AU	9513	398			A1		1995	0710		AU	1999	-133	98		1	9941	214
JP	0950	7066			Т2		1997	0715		JP	1999	5-517	179		1	9941	214
	8176						1998	0114		ΕP	1999	-904	392		1	9941	214
EP	8176	27			· B1		2005	0309									
	R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR	2, I	r, LI	, LU,	NL,	SE,	MC,	PT,
		ΙE,	SI,	LT													
AT	2903	78			E		2005	0315		ΑT	1999	-904	392		1	9941	214
HK	1008						2005	1230		НK	1998	3-109	161		1	9980	714
PRIORIT	Y APP	LN.	INFO	. :						US	1993	3-173	741		A 1	9931	223
				•						US	1994	-324	948		A 1	9941	018
										WÓ	1994	-US1	4313	,	W 1	9941	214
		(~)															

OTHER SOURCE(S): MARPAT 123:339732

Entered STN: 16 Nov 1995 ED

GΪ

II

$$Q = \begin{array}{c} R^4 \\ R^5 \\ R^6 \\ R^7 \end{array}$$

Title compds. [I; R = indolyl group Q; R1 independently = H, (un)substituted alkyl, heterocyclyl(alkyl), etc.; R2 independently = H, alkyl(thio), CF3, etc.; 1 pair of R1R2 = (CH2)XCH2; R3 = H, Ac; R4-R7 independently = H, halo, alkyl, alkoxy, etc.; X = (un)substituted alkylene, (alkyl)imino, etc.; r = 1-3] were prepared Thus, 1-(1-methyl-4-piperidinyl)-1H-indole (preparation given) was cyclocondensed with iso-Pr 1-methyl-3-indolylacetimidate to give title compound II which had IC50 of 0.02 and 0.01μM against β1 and β2 isoenzymes of protein kinase C, resp.

IT 170364-57-5P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of bis(indolyl)pyrrolediones as protein kinase C inhibitors)

RN 170364-57-5 CAPLUS

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

L10 ANSWER 23 OF 32 USPATFULL on STN

ACCESSION NUMBER:

2005:331346 USPATFULL

TITLE:

Crystalline 2,5-dione-3-(1-methyl-1h-indol-3-yl)-4-[1-

(pyridin-2ylmethyl)piperidin-4-yl]-1h- pyrrole

mono-hydrochloride

INVENTOR (S):

Bush, Julie Kay, Fishers, IN, UNITED STATES

Faul, Margaret Mary, Zionsville, IN, UNITED STATES Reutzel-Edens, Susan Marie, Zionsville, IN, UNITED

STATES

20050105 PCT 371 date

NUMBER DATE

PRIORITY INFORMATION:

US 2003-395976P 20020712 (60)

DOCUMENT TYPE:

Utility

16

FILE SEGMENT:

APPLICATION

LEGAL REPRESENTATIVE:

ELI LILLY AND COMPANY, PATENT DIVISION, P.O. BOX 6288,

INDIANAPOLIS, IN, 46206-6288, US

NUMBER OF CLAIMS:

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 1 Drawing Page(s)

LINE COUNT: 742

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to crystalline 2,5-dione-3-(1-methyl-1H-indol-3-yl)-4-[1-(pyridin-2-yl-methyl)piperidin-4-yl]-1H-indol-3-yl]-1H-pyrrole mono-hydrochloride salt, a pharmaceutical formulation containing said salt and to methods for treating cancer and for inhibiting tumor growth using said salt.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 170364-57-5P 359017-79-1P 647031-15-0P

(crystalline

3-(1-methyl-1H-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-yl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-ylnethyl)-4-[1-(pyridin-2-ylmethyl)piperidin-4-indol-3-ylnethyl)-4-[1-(pyridin-3-ylnethyl)piperidin-4-indol-3-ylnethyl)-4-[1-(pyridin-3-ylnethyl)piperidin-4-indol-3-ylnethyl)-4-[1-(pyridin-3-ylnethyl)piperidin-4-indol-3-ylnethyl)-4-[1-(pyridin-3-ylnethyl)piperidin-4-indol-3-ylnethyl)-4-[1-(pyridin-3-ylnethyln

yl]-1H-indol-3-yl]-1H-pyrrole-2,5-dione monohydrochloride preparation for antitumor pharmaceuticals)

RN 170364-57-5 USPATFULL

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-

pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

RN 359017-79-1 USPATFULL

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, monohydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

HC1

monohydrate (9CI) (CA INDEX NAME)

RN647031-15-0 USPATFULL 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-CNpyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, monohydrochloride,

● HCl

● H₂O

L10 ANSWER 24 OF 32 USPATFULL on STN

ACCESSION NUMBER:

2005:240102 USPATFULL

TITLE:

Hydrogels used to deliver medicaments to the eye for

the treatment of posterior segment diseases

INVENTOR(S):

Schultz, Clyde L., Ponte Vedra, FL, UNITED STATES

NUMBER KIND DATE PATENT INFORMATION: US 2005208102 **A**1 20050922

APPLICATION INFO .: US 2004-821718 A1 20040409 (10)

> NUMBER DATE

PRIORITY INFORMATION:

US 2003-461354P 20030409 (60)

DOCUMENT TYPE: FILE SEGMENT:

Utility

APPLICATION

Searched by Barb O'Bryen, STIC 2-2518

Page 37

LEGAL REPRESENTATIVE: FINCH IP LLC, P.O. BOX 1358, CONCORD, NH, 03302, US

NUMBER OF CLAIMS: 20 EXEMPLARY CLAIM: 1 LINE COUNT: 502

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

This invention provides a polymeric drug delivery system including a hydrogel containing one or more drugs for the treatment of a posterior segment disease. Allowing passive transference of this drug from a dilute solution into the hydrogel produces the delivery system. The hydrogel, when placed in contact with the eye, delivers the drug. The delivery of the drug is sustained over an extended period of time, which is of particular utility in the eye, which is periodically flushed with tears. This sustained delivery accelerates the treatment process while avoiding potential damaging effects of localized delivery of high concentrations of compounds, e.g., from eye drops.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 365253-37-8, LY317615

(hydrogels containing drugs for treatment of eye diseases in posterior segment)

RN 365253-37-8 USPATFULL

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} H \\ N \\ \end{array}$$

●2 HCl

L10 ANSWER 25 OF 32 USPATFULL on STN

ACCESSION NUMBER: 97:88998 USPATFULL

TITLE: Protein kinase C inhibitors

INVENTOR(S): Heath, Jr., William F., Fishers, IN, United States McDonald, III, John H., Carmel, IN, United States

Paal, Michael, Hamburg, Germany, Federal Republic of Schotten, Theo, Vierhofen, Germany, Federal Republic of Stenzel, Wolfgang, Reinbek, Germany, Federal Republic

(8)

οf

PATENT ASSIGNEE(S): Eli Lilly and Company, Indianapolis, IN, United States

(U.S. corporation)

RELATED APPLN. INFO.: Division of Ser. No. US 1994-324948, filed on 18 Oct

1994, now patented, Pat. No. US 5545636 which is a

Page 38

continuation-in-part of Ser. No. US 1993-173741, filed

on 23 Dec 1993, now abandoned

DOCUMENT TYPE: Utility Granted FILE SEGMENT: Chang, Ceila PRIMARY EXAMINER:

Caltrider, Steven P., Boone, David E., Collins, Daniel LEGAL REPRESENTATIVE:

> W. 6 1

NUMBER OF CLAIMS: EXEMPLARY CLAIM: 2500 LINE COUNT:

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention discloses compounds that are highly isozyme selective protein kinase C beta-1 and beta-2 isozyme inhibitors. Accordingly, the present invention provides a method of selectively inhibiting protein kinase C isozymes beta-1, and beta-2. As isozyme selective inhibitors of beta-1 and beta-2, the compounds are therapeutically useful in treating conditions associated with diabetes mellitus and its complications, as well as other disease states associated with an elevation of the beta-1 and beta-2 isozyme.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 170364-57-5P

(preparation of bis(indolyl)pyrrolediones as protein kinase C inhibitors)

RN 170364-57-5 USPATFULL

1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-CN

pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

L10 ANSWER 26 OF 32 USPATFULL on STN

97:83978 USPATFULL ACCESSION NUMBER:

Protein kinase C inhibitors TITLE:

Heath, Jr., William F., Fishers, IN, United States INVENTOR(S):

McDonald, III, John H., Carmel, IN, United States Ruhter, Gerd, Hamburg, Germany, Federal Republic of Schotten, Theo, Vierhofen, Germany, Federal Republic of

Eli Lilly and Company, Indianapolis, IN, United States PATENT ASSIGNEE(S):

(U.S. corporation)

NUMBER KIND DATE PATENT INFORMATION: US 5668152 19970916 APPLICATION INFO.: US 1995-452617 19950525 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1994-324948, filed on 18 Oct 1994, now patented, Pat. No. US 5545636 which is a

continuation-in-part of Ser. No. US 1993-173741, filed

on 23 Dec 1993, now abandoned

DOCUMENT TYPE: Utility FILE SEGMENT: Granted PRIMARY EXAMINER: Chang, Ceila

LEGAL REPRESENTATIVE: Caltrider, Steven P., Boone, David E.

NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
LINE COUNT: 2300

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention discloses compounds that are highly isozyme selective protein kinase C beta-1 and beta-2 isozyme inhibitors. Accordingly, the present invention provides a method of selectively inhibiting protein kinase C isozymes beta-1, and beta-2. As isozyme selective inhibitors of beta-1 and beta-2, the compounds are therapeutically useful in treating conditions associated with diabetes mellitus and its complications, as well as other disease states associated with an elevation of the beta-1 and beta-2 isozyme.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 170364-57-5P

(preparation of bis(indolyl)pyrrolediones as protein kinase C inhibitors)

RN 170364-57-5 USPATFULL

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-

pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

L10 ANSWER 27 OF 32 USPATFULL on STN

ACCESSION NUMBER: 97:76155 USPATFULL

TITLE: Protein kinase C inhibitors

INVENTOR(S): Heath, Jr., William F., Fishers, IN, United States

McDonald, III, John H., Carmel, IN, United States

PATENT ASSIGNEE(S): Eli Lilly and Company, Indianapolis, IN, United States

(U.S. corporation)

APPLICATION INFO.: US 1995-450320 19950525 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1994-324948, filed on 18 Oct

1994, now patented, Pat. No. US 5545636 And a

continuation-in-part of Ser. No. US 1993-173741, filed

on 23 Dec 1993, now abandoned

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Chang, Ceila

LEGAL REPRESENTATIVE: Caltrider, Steven P., Boone, David E.

NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
LINE COUNT: 2299

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention discloses compounds that are highly isozyme

selective protein kinase C beta-1 and beta-2 isozyme inhibitors. Accordingly, the present invention provides a method of selectively inhibiting protein kinase C isozymes beta-1, and beta-2. As isozyme selective inhibitors of beta-1 and beta-2, the compounds are therapeutically useful in treating conditions associated with diabetes mellitus and its complications, as well as other disease states associated with an elevation of the beta-1 and beta-2 isozyme.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 170364-57-5P

(preparation of bis(indolyl)pyrrolediones as protein kinase C inhibitors)

RN 170364-57-5 USPATFULL

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

$$\begin{array}{c} H \\ N \\ \end{array}$$

L10 ANSWER 28 OF 32 DRUGU COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 2005-39670 DRUGU T S

TITLE: Results from phase II trial of enzastaurin (LY317615) in

patients with recurrent high grade gliomas.

AUTHOR: Fine H A; Kim L; Royce C; Draper D; Haggarty I; Ellinzano H;

Albert P; Kinney P; Musib L; Thornton D

CORPORATE SOURCE: Eli-Lilly

LOCATION: Bethesda, MD; Indianapolis, IN, USA

SOURCE: J.Clin.Oncol. (23, No. 16, Suppl., 1504, 2005)

CODEN: JCONDN ISSN: 0732-183X

AVAIL. OF DOC.: Neuro-Oncology Branch, NIG, Bethesda, Maryland, U.S.A.

LANGUAGE: English DOCUMENT TYPE: Journal

ABSTRACT:

The antitumor activity of enzastaurin (LY-317615) was investigated in a phase II trial of 85 patients with recurrent high grade gliomas. Treatment was well tolerated with minimal hematologic and hepatotoxic drug-related toxicity. LY-317615 appears to have promising antitumoral activity against high-grade glioma. (conference abstract: 41st Annual Meeting of the American Society of Clinical Oncology, Orlando, Florida, USA, May 13-17, 2005).

SECTION HEADING: T Therapeutics

S Adverse Effects

CLASSIF. CODE: 35 Adverse Reactions

51 Chemotherapy - clinical

64 Clinical Trials

CONTROLLED TERM:

[01]

ENZASTAURIN *TR; ENZASTAURIN *AE; GLIOMA *TR; MARROW-DISEASE *AE; HEPATOPATHY *AE; ENCEPHALOPATHY *TR; NEOPLASM *TR; DR0109625 *RN; IN-VIVO *FT; CASES *FT; PHASE-II *FT; P.O. *FT; CYTOSTATIC *FT; CLIN.TRIAL *FT; ANGIOGENESIS-INHIBITORS *FT; CYTOSTATICS *FT; AKT-INHIBITORS *FT; APOPTOSIS-INDUCERS

*FT; GLYCOGEN-SYNTHASE-KINASE-3-INHIBITORS *FT;

PHOSPHOINOSITIDE-3-KINASE-INHIBITORS *FT;

PROTEIN-KINASE-C-INHIBITORS *FT; TR *FT; AE *FT

FIELD AVAIL.:

CAS REGISTRY NO.: 17.03645755 AB; LA; CT

structures printed beginning on p. 51

FILE SEGMENT:

Literature

ANSWER 29 OF 32 DRUGU COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 2006-05209 DRUGU T P S

TITLE:

A phase I dose-escalation study with oral LY317615 (L) in

combination with capecitabine (C) in advanced cancer

AUTHOR:

Holden S; Britten C; Prager D; Finn R; Le M; Basche M;

O'Bryant C; Levin A; Thornton D; Eckhardt S

CORPORATE SOURCE: Univ.Colorado; Univ.California; Lilly

LOCATION: SOURCE:

Aurora, CO, Los Angeles, CA; Indianapolis, IN, USA Eur.J.Cancer Suppl. (2, No. 8, 156, 2004)

1359-6349

AVAIL. OF DOC .:

University of Colorado Cancer Center, Developmental

Therapeutics, Aurora, U.S.A.

LANGUAGE:

English Journal

DOCUMENT TYPE:

ABSTRACT:

A phase I study was designed to evaluate the safety and pharmacokinetic behavior of p.o. LY-317615 and capecitabine in patients with advanced cancer. The schedule of LY-317615 and capecitabine was well tolerated. Stable disease was observed in some patients. PK analysis is pending in addition to biological analysis of ex vivo whole blood stimulation, both of which will be presented. Accrual is ongoing to establish the maximum tolerated dose of the combination, after which phase II studies are planned. (conference abstract: 16th EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics, Geneva, Switzerland, September 28-October 1, 2004).

SECTION HEADING:

T Therapeutics

P Pharmacology

S Adverse Effects

CLASSIF. CODE:

8 Pharmacokinetics 35 Adverse Reactions

51 Chemotherapy - clinical

64 Clinical Trials

73 Trial Preparations

CONTROLLED TERM:

ADVANCED *TR; PANCREAS *TR; PANCREOPATHY *TR; ARRHYTHMIA *AE; DIARRHEA *AE; NAUSEA *AE; COLON *TR; INTESTINE *TR; LUNG *TR;

PNEUMOPATHY *TR; SARCOMA *TR; CARDIOPATHY *AE;

GASTROENTEROPATHY *AE; NEOPLASM *TR; IN-VIVO *FT; CASES *FT;

PHASE-I *FT; PHARMACOKINETICS *FT; CYTOSTATIC *FT;

QT-INTERVAL *FT; HIGH *FT; LOW *FT; DOSAGE *FT; CLIN.TRIAL

*FT; HEART *FT; ELECTROPHYSIOL. *FT

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[01] ENZASTAURIN HYDROCHLORIDE *TR; ENZASTAURIN HYDROCHLORIDE *AE;

ENZASTAURIN HYDROCHLORIDE *DM; DR0050087 *RN; P.O. *FT; ANGIOGENESIS-INHIBITORS *FT; CYTOSTATICS *FT; AKT-INHIBITORS *FT; APOPTOSIS-INDUCERS *FT; GLYCOGEN-SYNTHASE-KINASE-3-

INHIBITORS *FT; PHOSPHOINOSITIDE-3-KINASE-INHIBITORS *FT; PROTEIN-KINASE-C-INHIBITORS *FT; TR *FT; AE *FT; DM *FT

CAS REGISTRY NO.: 359017-79-1

[02] CAPECITABINE *TR; CAPECITABINE *AE; CAPECITABINE *DM;

DR9504617 *RN; P.O. *FT; METABOLITE *FT; PRODRUG *FT; BIOPHARM. *FT; CYTOSTATICS *FT; SYNERGISTS *FT; TR *FT; AE

*FT; DM *FT

CAS REGISTRY NO.: 154361-50-9

[03] FLUOROURACIL *TR; FLUOROURACIL *AE; FLUOROURACIL *DM;

CORONARY-DISEASE *AE; VASOSPASM *AE; FLUOROURA *RN;

METABOLITE *FT; PRODRUG *FT; BIOSYNTH. *FT; BIOPHARM. *FT; CYTOSTATICS *FT; THYMIDYLATE-SYNTHASE-INHIBITORS *FT; TR *FT;

AE *FT; DM *FT

CAS REGISTRY NO.: 51-21-8
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature

L10 ANSWER 30 OF 32 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on

STN

ACCESSION NUMBER: 2003:474501 BIOSIS DOCUMENT NUMBER: PREV200300474501

TITLE: Green chemistry approach to the synthesis of N-substituted

piperidones.

AUTHOR(S): Faul, Margaret M.; Kobierski, Michael E.; Kopach, Michael

E. [Reprint Author]

CORPORATE SOURCE: Lilly Research Laboratories, A Division of Eli Lilly and

Company, Chemical Process Research and Development

Division, Eli Lilly and Co., Indianapolis, IN, 46285-4813,

USA

kopach michael@lilly.com

SOURCE: Journal of Organic Chemistry, (July 11 2003) Vol. 68, No.

14, pp. 5739-5741. print. ISSN: 0022-3263 (ISSN print).

DOCUMENT TYPE: Article LANGUAGE: English

ENTRY DATE: Entered STN: 15 Oct 2003

Last Updated on STN: 15 Oct 2003

ABSTRACT:An efficient green chemistry approach to the synthesis of N-substituted piperidones and piperidines was developed and applied to the synthesis of 1-(2-pyridinyl-methyl)-piperidin-4-one, 1, a key starting material for the synthesis of LY317615, an antiangiogenic agent currently under development at Eli Lilly and Company. The general utility of this methodology, which presents significant advantages over the classical Dieckman approach to this class of compounds, was also demonstrated by the direct synthesis of a series of substituted piperidones and piperidines, including potential dopamine D4 receptor antagonists 2 and 3, that have been evaluated in the clinic as antipsychotic agents.

CONCEPT CODE: Pathology - Therapy 12512
Pharmacology - General 220

INDEX TERMS: Major Concepts

Methods and Techniques; Pharmacology

INDEX TERMS: Chemicals & Biochemicals

1-(2-pyridinyl-methyl)-piperidin-4-one; LY317615: antiangiogenic agent, synthesis; N-substituted piperidones: synthesis; dopamine D4 receptor;

piperidines: synthesis

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INDEX TERMS: Methods & Equipment

green chemistry synthesis: laboratory techniques

REGISTRY NUMBER: 365253-37-8 (LY317615)

·27154-43-4D (N-substituted piperidones)

110-89-4 (piperidines)

L10 ANSWER 31 OF 32 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on

STN

ACCESSION NUMBER: 2003:357635 BIOSIS DOCUMENT NUMBER: PREV200300357635

TITLE: PKCbeta: A Rational Therapeutic Target in Diffuse Large

B-Cell Lymphoma.

AUTHOR(S): Wu, Erxi [Reprint Author]; Aguiar, Ricardo C. T. [Reprint

Author]; Savage, Kerry J. [Reprint Author]; Kutok, Jeffery L. [Reprint Author]; Wang, FengFei [Reprint Author]; Aster,

Jon C. [Reprint Author]; Shipp, Margaret A. [Reprint

Author]

CORPORATE SOURCE: Department of Medicial Oncology, Dana-Farber Cancer

Institute, Boston, MA, USA

SOURCE: Blood, (November 16 2002) Vol. 100, No. 11, pp. Abstract

No. 757. print.

Meeting Info.: 44th Annual Meeting of the American Society of Hematology. Philadelphia, PA, USA. December 06-10, 2002.

American Society of Hematology. CODEN: BLOOAW. ISSN: 0006-4971.

DOCUMENT TYPE: Conference; (Meeting)

Conference; (Meeting Poster)

Conference; Abstract; (Meeting Abstract)

LANGUAGE: English

ENTRY DATE: Entered STN: 6 Aug 2003

Last Updated on STN: 6 Aug 2003

ABSTRACT: Diffuse large B-cell lymphoma (DLBCL), the most common lymphoid malignancy in adults, is curable in less than 50% of patients with conventional chemotherapy. We recently utilized oligonucleotide microarray gene expression profiles and supervised learning algorithms to develop a molecular predictor for DLBCL outcome (Nat. Med. 8:68, 2002). In the molecular model, one of the most prominently overexpressed genes in fatal/refractory DLBCLs was protein kinase C beta (PKCbeta). Further evidence linking overexpression of PKCbeta with outcome was obtained at a protein level by performing immunohistochemical (IHC) analysis of paraffin-embedded tumor tissue from the DLBCL pilot study patients. The alternatively-spliced PKCbetal and beta2 isoforms are the major PKC expressed by B-lymphocytes. These serine/threonine kinases have been implicated in critical phosphorylation pathways governing signal transduction, cellular proliferation and apoptosis, including BCR-dependent activation of NFkappaB. To credential PKCbeta as a possible rational therapeutic target in DLBCL, we assessed PKCbeta1 and beta2 transcripts, protein and enzymatic activity in a representative panel of DLBCL cell lines in the presence or absence of a PKCbeta-selective inhibitor that has already entered clinical trials (LY436881, test compound, LY317615, clinical trial compound). Four of the seven DLBCL cell lines had detectable to abundant PKCbeta transcripts by quantitative PCR and northern blotting and comparable PKC protein levels by western analysis. In the absence of exogenous signals, PKCbeta+ DLBCL cell lines also exhibited comparable enzymatic activity in in vitro kinase assays using a PKC-specific peptide substrate. In these in vitro kinase assays, LY436881 reduced PKC enzymatic activity to undetectable levels at doses that could be achieved in vivo. In PKCbeta+ DLBCL cell lines, the PKCbeta selective inhibitor also dramatically decreased proliferation (> 80% decrease, MTS assays) and increased apoptosis (22-70% apoptotic cells, annexin V/PI assays) at clinically achievable doses. In contrast, PKCbeta-negative DLBCL cell lines were largely resistant to the anti-proliferative and pro-apoptotic effects of

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LY436881. To gauge the frequency of PKCbeta expression in the clinical setting in which the PKCbeta inhibitor might first be tested, 11 relapsed DLBCLs were evaluated for PKCbeta expression by immunohistochemistry. All of these relapsed tumors demonstrated abundant PKCbeta expression. Taken together, these data support further clinical analysis of PKCbeta as a rational therapeutic target in DLBCL. For these reasons, a multi-institutional phase II trial of the oral PKCbeta inhibitor, LY317615, has been initiated in patients with relapsed DLBCL.

General biology - Symposia, transactions and proceedings CONCEPT CODE:

00520

Cytology - Animal 02506 Cytology - Human 02508

Enzymes - General and comparative studies: coenzymes

10802

Pathology - Therapy 12512

Blood - Blood and lymph studies 15002

Blood - Blood cell studies 15004

Pharmacology - General 22002

Pharmacology - Clinical pharmacology 34502 Immunology - General and methods

INDEX TERMS: Major Concepts

> Blood and Lymphatics (Transport and Circulation); Enzymology (Biochemistry and Molecular Biophysics); Immune System (Chemical Coordination and Homeostasis);

Pharmacology

Parts, Structures, & Systems of Organisms INDEX TERMS:

B-lymphocyte: blood and lymphatics, immune system

INDEX TERMS: Chemicals & Biochemicals

> LY317615: enzyme inhibitor-drug; LY436881: enzyme inhibitor-drug; protein kinase C beta-1 isoform [PKC-beta-1 isoform]: expression, regulation; protein

kinase C beta-2 isoform [PKC-beta-2 isoform]:

expression, regulation

INDEX TERMS: Miscellaneous Descriptors

cellular apoptosis; cellular proliferation;

phosphorylation pathway; signal transduction pathway

ORGANISM: Classifier

> Hominidae 86215

Super Taxa

Primates; Mammalia; Vertebrata; Chordata; Animalia

Organism Name

human (common): patient

Taxa Notes

Animals, Chordates, Humans, Mammals, Primates,

Vertebrates

365253-37-8 (LY317615) REGISTRY NUMBER:

PROUSDDR COPYRIGHT 2006 PROUS SCIENCE on STN L10 ANSWER 32 OF 32

ACCESSION NUMBER:

PROUSDDR 2002:108

DOCUMENT NUMBER:

306147

CHEMICAL NAME:

3-(1-Methyl-1H-indol-3-yl)-4-(1-(1-(pyridin-2-

ylmethyl)piperidin-4-yl)-1H-indol-3-yl)-1H-pyrrole-2,5-

dione dihydrochloride

DRUG NAME:

317615.2HCl LY-317615.2HCl

GENERIC NAME:

Enzastaurin hydrochloride (Prop INNM, USAN)

CAS REGISTRY NUMBER:

359017-72-4 365253-37-8

170364-57-5 (free base) 359017-79-1 (monoHCl)

MOLECULAR FORMULA:

C32 H31 Cl2 N5 O2

STATUS:

HIGHEST DEV. PHASE:

Actively Investigated

nighesi Dev.

PHASE II

ORIGINATOR:

Lilly
National Cancer Institute (US)

CLASSIFICATION CODE:

Brain Cancer Therapy; Colorectal Cancer Therapy; Non-Small Cell Lung Cancer Therapy; Non-Hodgkin's Lymphoma Therapy; Solid Tumors Therapy; Antineoplastic

Enhancing Agents

ACTION MECHANISM:

Angiogenesis Inhibitors; Inhibitors of Signal

Transduction Pathways SYNTHLINE 2004000063

OTHER SOURCE: ENTRY DATE:

SYNTHLINE 2004000063 Entered STN: 9 May 2004

Last Updated on STN: 1 Mar 2006

STRUCTURE:

PROUS REFERENCES:

RefID: 686322 (Text Available)

Drug Data Report, Vol. 24, No. 9, pp 841, 2002

REFERENCE TEXT:

RefID: 686322

ACTION - Selective, small-molecule inhibitor of protein kinase Cbeta (PKCbeta; IC50 = 0.03 mcM) with selective growth-inhibitory activity against vascular endothelial growth factor (VEGF) - induced human umbilical vein endothelial cell (HUVEC) proliferation (IC50 = 150 nM) relative to human tumor cells. It inhibited growth factor-stimulated neovascularization in the rat cornea micropocket assay when given at a dose of 10 mg/kg p.o. b.i.d. for 10 days. Moreover, compound produced marked inhibition of tumor vascularization in a range of human solid tumor xenografts and it was effective both as a single agent and in combination with cytotoxic therapies in brain, breast, ovarian, non-small cell lung, small cell lung, gastric, hepatocellular, colon and renal cell cancer xenografts. Additive activity was generally seen in combination with cytotoxic agents. Results of an ongoing phase I trial in patients with solid tumors receiving escalating single oral doses of compound (20-350 mg) showed no dose-limiting toxicity at up to 160 mg; the most frequent adverse event has been grade 1 fatigue. At these doses, the half-life of compound was 9-25 h, with no significant accumulation. Disease

Qazi 10/520360 Page 46

stabilization was achieved in 4 of 27 patients treated with over 4 cycles, and 3 of these have received over 6 cycles.

PATENT REFERENCES:

TITLE: Protein kinase C inhibitors

INVENTOR(S): Paal, M.; Stenzel, W.; Schotten, T.; McDonald, J.H. I.

I. I.; Heath, W.F.H. Jr.; Ruther, G.

PATENT ASSIGNEE(S): Lilly

PATENT INFORMATION: EP 817627 19980114

EP 1449529 20040825 JP 97507066 19970715 JP 2005225895 20050825 JP 2005225896 20050825 US 5545636 19960813 WO 9517182 19950629

PRIORITY INFORMATION: US 1993-173741 19931223

US 1994-324948 19941018

TITLE: Therapeutic compositions including protein kinase C

inhibitors

INVENTOR(S): Cameron, N.E.; Ways, D.K.

PATENT ASSIGNEE(S): Lilly

PATENT INFORMATION: WO 2001030331 20010503 PRIORITY INFORMATION: US 1999-161129 19991022 US 2000-177510 20000121

TITLE: Use of a protein kinase C inhibitor to enhance the

clinical efficacy of anti-neoplastic chemotherapeutic

agents and radiation therapy

INVENTOR(S): Teicher, B.A.; Ways, D.K.

PATENT ASSIGNEE(S): Lilly

PATENT INFORMATION: WO 2002002094 20020110 PRIORITY INFORMATION: US 2000-215043 20000629

TITLE: Therapeutic treatment of cancer with a protein kinase

C inhibitor

INVENTOR(S): Teicher, B.A.; Ways, D.K.

PATENT ASSIGNEE(S): Lilly

PATENT INFORMATION: WO 2002002116 20020110 PRIORITY INFORMATION: US 2000-215172 20000629

TITLE: Bisindolyl maleimides useful for treating prostate

cancer and AKT-mediated diseases

INVENTOR(S): Graff, J.R.

PATENT ASSIGNEE(S): Lilly

PATENT INFORMATION: WO 2005041953 20050512 PRIORITY INFORMATION: US 2003-514291 20031024

TITLE: Protein kinase C inhibitors for the treatment of

autoimmune diseases and of transplant rejection

INVENTOR(S): Schuler, W.; Wagner, J.

PATENT ASSIGNEE(S): Novartis

PATENT INFORMATION: WO 2005097108 20051020
PRIORITY INFORMATION: GB 2004-8066 20040408
GB 2004-14540 20040629
GB 2004-22068 20041005

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 Teicher, B.A.; Alvarez, E.; Menon, K.; Gallbreath, E.; Shih, C.; Faul,
 M., Int J Antimicrob Agents, Vol. 17, No. Suppl. 1, (Abst S6.03), 2001
- (2) RefID: 626834, Periodic Publication
 "Antiangiogenic and antitumor effects of a protein kinase Cbeta
 inhibitor in human T98G glioblastoma multiforme xenografts"
 Teicher, B.A.; Menon, K.; Alvarez, E.; Galbreath, E.; Shih, C.; Faul,
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- (3) RefID: 642764, Congress Literature
 "Novel therapies for advanced non-small cell lung cancer: The
 combination of chemotherapy with biologic agents in the treatment of
 advanced disease"
 Herbst, R.S., Chemother Found Symp Innov Cancer Chemother Tomorrow
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 Herbst, R.S.; et al., AACR-NCI-EORTC Int Conf Mol Targets Cancer Ther, Oct 29 2001-Nov 2 2001, Miami Beach, (Abst 29)
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 Teicher, B.A.; et al., Cancer Chemother Pharmacol, Vol. 48, No. 6, pp 473, 2001
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 Teicher, B.A.; et al., In Vivo, Vol. 15, No. 3, pp 185, 2001
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- (11) RefID: 668648, Periodic Publication "Antiangiogenic effects of a protein kinase Cbeta-selective small molecule" Teicher, B.A.; et al., Cancer Chemother Pharmacol, Vol. 49, No. 1, pp 69, 2002
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 Herbst, S.H.; Thornton, D.E.; Kies, M.S.; Sinha, V.; Flanagan, S.;
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 Faul, M.M.; Gillig, J.R.; Jirousek, M.R.; Ballas, L.M.; Schotten, T.;
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 "Correlation between protein kinase C-beta expression and patient survivals in primary tumors implications for clinical drug development"
 Li, D.; Phong, M.; Lahn, M.; Thornton, D.; Brail, L.; Ganji, G.; Liao, B., Eur J Cancer Suppl, Vol. 2, No. 8, (Abst 174), 2004
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 "The protein kinase C beta (PKCbeta) inhibitor enzastaurin HCl
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 Robertson, M.; Kahl, B.; Vose, J.; et al., Blood, Vol. 106, No. 11,
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 induces apoptosis in multiple myeloma cell lines"
 Rizvi, M.A.; et al., Blood, Vol. 106, No. 11, (Abst 1577), 2005
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 Podar, K.; et al., Blood, Vol. 106, No. 11, (Abst 1584), 2005
- RefID: 959759, Congress Literature
 "Evaluation of in vitro synergistic anti-tumor activity of enzastaurin and alimta against thyroid cancer cell lines"
 Oberschmidt, O.; Eismann, U.; Schulz, L.; Struck, S.; Blatter, J.;
 Lahn, M.M.; Ma, D.; Hanauske, A.-R., AACR-NCI-EORTC Int Conf Mol Targets Cancer Ther, Nov 14 2005-Nov 18 2005, Philadelphia, (Abst B6)

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structures for hits from Drug W & Bidsi3

L7 ANSWER 1 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN

RN 4647031-15-0 REGISTRY

ED Entered STN: 06 Feb 2004

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, monohydrochloride, monohydrate (9CI) (CA INDEX NAME)

MF C32 H29 N5 O2 . Cl H . H2 O

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

CRN (170364-57-5)

HCl

● H₂O

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN

RN 365253-37-8 REGISTRY

ED Entered STN: 29 Oct 2001

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, dihydrochloride (9CI) (CA INDEX NAME)

OTHER NAMES:

CN LY 317615

DR 359017-72-4

MF C32 H29 N5 O2 . 2 Cl H

SR CA

LC STN Files: BIOSIS, CA, CAPLUS, IMSRESEARCH, PROUSDDR, SYNTHLINE, TOXCENTER, USPATFULL

CRN (170364-57-5)

•2 HCl

12 REFERENCES IN FILE CA (1907 TO DATE)
12 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN RN 359017-79-1 REGISTRY

ED Entered STN: 27 Sep 2001

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]-, monohydrochloride (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Enzastaurin hydrochloride

MF C32 H29 N5 O2 . Cl H

SR CAS Client Services

LC STN Files: ADISINSIGHT, CA, CAPLUS, IMSRESEARCH, PHAR, PROUSDDR, SYNTHLINE, TOXCENTER, USAN, USPATFULL

CRN (170364-57-5)

HCl

3 REFERENCES IN FILE CA (1907 TO DATE)

3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L7 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2006 ACS on STN

RN 47036475755 REGISTRY

ED Entered STN: 17 Nov 1995

CN 1H-Pyrrole-2,5-dione, 3-(1-methyl-1H-indol-3-yl)-4-[1-[1-(2-pyridinylmethyl)-4-piperidinyl]-1H-indol-3-yl]- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Enzastaurin

FS 3D CONCORD

MF C32 H29 N5 O2

CI COM

SR CA

LC STN Files: ADISINSIGHT, CA, CAPLUS, CASREACT, DDFU, DRUGU, IMSDRUGNEWS, IMSRESEARCH, PROMT, PROUSDDR, SYNTHLINE, TOXCENTER, USAN, USPATFULL

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 10 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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10/520360 (search history) Page 1

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OR 359017-79-1/BI OR 41661-47-6/BI OR 616898-64-7/BI OR

647031-15-0/BI OR 647031-16-1/BI OR 6959-47-3/BI)

D SCAN

STRUCTURE UPLOADED . L5

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ANSWERS '1-22' FROM FILE CAPLUS

ANSWERS '23-27' FROM FILE USPATFULL

ANSWERS '28-29' FROM FILE DRUGU

ANSWERS '30-31' FROM FILE BIOSIS

ANSWER '32' FROM FILE PROUSDDR

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chain nodes :
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ring bonds :
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exact bonds :
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normalized bonds :
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Connectivity:

36:1 E exact RC ring/chain

25-26 25-27 26-30 27-28 28-29 29-30

Match level:

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom

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27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom 34:Atom 35:Atom 36:CLASS 37:CLASS 38:CLASS 39:CLASS

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